

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q93879

Daisuke NAKAJIMA

Appln. No.: 10/574,618

Group Art Unit: 1733

Confirmation No.: 2109

Examiner: Not yet assigned

Filed: April 5, 2006

For: PNEUMATIC RADIAL TIRE

REQUEST FOR CORRECTED OFFICIAL FILING RECEIPT

ATTN: Office of Initial Patent Examination  
Filing Receipt Correction  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

We enclose a copy of the Official Filing Receipt for the above-identified application and request the following corrections:

**TOT CLMS: 9**

**Assignment for Published Patent Application: Bridgestone Corporation**

Verification for the requested corrections is indicated on the Preliminary Amendment and Assignment filed April 5, 2006.

Respectfully submitted,



Steven M. Gruskin  
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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: January 3, 2007



## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (C) DATE	ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/574,618	04/05/2006	1733	900	Q93879	2	89	1

CONFIRMATION NO. 2109

23373  
 SUGHRUE MION, PLLC  
 2100 PENNSYLVANIA AVENUE, N.W.  
 SUITE 800  
 WASHINGTON, DC 20037

## FILING RECEIPT



\*OC000000020653526\*

Date Mailed: 10/03/2006

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Daisuke Nakajima, Tokyo, JAPAN;

*Assignment for Published Patent Application → Bridgestone Corporation*  
 Power of Attorney: The patent practitioners associated with Customer Number 23373.

## Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP04/14484 10/01/2004

## Foreign Applications

JAPAN 2003-346951 10/06/2003

If Required, Foreign Filing License Granted: 09/29/2006

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/574,618**

Projected Publication Date: 01/11/2007

Non-Publication Request: No

Early Publication Request: No

Title

Pneumatic radial tire /

**Preliminary Class**

152

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**PATENT APPLICATION  
Q93879**

**IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)**

In re application of

Daisuke NAKAJIMA

Appln. No.: TBA

Confirmation No.: TBA

Group Art Unit: TBA

Filed: April 5, 2006

Examiner: TBA

For: PNEUMATIC RADIAL TIRE

**DOCKETED**

**PRELIMINARY AMENDMENT**

APR 11 2006

**MAIL STOP AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Prior to an examination on the merits of the above-identified application, please amend the same as follows on the accompanying pages.

**TABLE OF CONTENTS**

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**AMENDMENTS TO THE SPECIFICATION****Page 3, paragraph [0012]:**

[0012] In a preferable embodiment of the pneumatic radial tire according to the invention, the cord is treated with an adhesive composition comprising a thermoplastic polymer (A), a heat-reactive aqueous polyurethane resin (B) and an epoxy compound (C), wherein a main chain of the thermoplastic polymer (A) ~~[[dose]] does~~ not substantially have an addition-reactive carbon-carbon double bond but has at least one crosslinkable functional group as a pendant group.

**Pages 3-4, paragraph [0013]:**

[0013] In another preferable embodiment of the pneumatic radial tire according to the invention, the cord is treated with an adhesive composition comprising a thermoplastic polymer (A), a heat-reactive aqueous polyurethane resin (B), an epoxy compound (C) and a rubber latex (D), wherein a main chain of the thermoplastic polymer (A) ~~[[dose]] does~~ not substantially have an addition-reactive carbon-carbon double bond but has at least one crosslinkable functional group as a pendant group.

**Page 8, paragraph [0028]:**

[0028] In the pneumatic radial tire of the invention, it is preferable that the polyethylene terephthalate cord is treated with an adhesive composition comprising a thermoplastic polymer (A), a heat-reactive aqueous polyurethane resin (B) and an epoxy compound (C), or an adhesive composition containing a rubber latex (D) in addition to the above components (A)-(C), wherein

a main chain of the thermoplastic polymer (A) [[dose]] does not substantially have an addition-reactive carbon-carbon double bond but has at least one crosslinkable functional group as a pendant group. The adhesiveness of the cord to rubber at the high temperature can be improved by treating with the above-mentioned adhesive composition.

**AMENDMENTS TO THE CLAIMS**

**This listing of claims supersedes all prior versions and listings of claims in this application:**

**LISTING OF CLAIMS:**

1. (Original) A pneumatic radial tire comprising a radial carcass, a belt disposed outside a crown portion of the carcass in a radial direction and comprised of at least two belt layers, and a belt reinforcing layer disposed outside the belt in the radial direction, characterized in that the belt reinforcing layer is formed by continuously and spirally winding a polyethylene terephthalate cord(s) in a circumferential direction of the tire, and this cord has an elastic modulus of not less than 2.5 mN/dtex-% under a load of 29.4 N measured at 160°C.

2. (Currently Amended) A pneumatic radial tire according to claim 1, wherein the cord is treated with an adhesive composition comprising a thermoplastic polymer (A), a heat-reactive aqueous polyurethane resin (B) and an epoxy compound (C), wherein a main chain of the thermoplastic polymer (A) [[dose]] does not substantially have an addition-reactive carbon-carbon double bond but has at least one crosslinkable functional group as a pendant group.

3. (Currently Amended) A pneumatic radial tire according to claim 1, wherein the cord is treated with an adhesive composition comprising a thermoplastic polymer (A), a heat-reactive aqueous polyurethane resin (B), an epoxy compound (C) and a rubber latex (D), wherein a main chain of the thermoplastic polymer (A) [[dose]] does not substantially have an addition-reactive



carbon-carbon double bond but has at least one crosslinkable functional group as a pendant group.

4. (Currently Amended) A pneumatic radial tire according to claim 2 [[or 3]], wherein the main chain of the thermoplastic polymer (A) is composed of an ethylenically addition polymer mainly having a straight-chain structure and/or a polyurethane based polymer, and the crosslinkable functional group as a pendant group is at least one selected from the group consisting of an oxazoline group, a bismaleimido group, a (blocked) isocyanate group, an aziridine group, a carbodiimido group, a hydrazino group, an epoxy group and an epithio group.

5. (Original) A pneumatic radial tire according to claim 1, wherein the cord is subjected to an adhesive treatment (dip treatment) under a tension of not less than  $6.9 \times 10^{-2}$  N/dtex.

6. (Original) A pneumatic radial tire according to claim 1, wherein the cord has a twisting coefficient  $\alpha$  of 500-2500 defined by the following equation (I):

$$\alpha = T \times D^{1/2} \quad \dots \dots (I)$$

(wherein  $\alpha$  is a twisting coefficient, T is a twisting number and D is a total fineness (dtex) of the cord).

7. (Original) A pneumatic radial tire according to claim 1, wherein the cord has an elongation percentage of not more than 2% in the tire after vulcanization with respect to an original length of the cord before vulcanization.

8. (Original) A pneumatic radial tire according to claim 1, wherein the cord has a total fineness of 1000-3500 dtex.

**Please add the following new claim 9:**

9. (New) A pneumatic radial tire according to claim 3, wherein the main chain of the thermoplastic polymer (A) is composed of an ethylenically addition polymer mainly having a straight-chain structure and/or a polyurethane based polymer, and the crosslinkable functional group as a pendant group is at least one selected from the group consisting of an oxazoline group, a bismaleimido group, a (blocked) isocyanate group, an aziridine group, a carbodiimido group, a hydrazino group, an epoxy group and an epithio group.

**REMARKS**

Subsequent to entry of the foregoing claim amendments, claims 1-9 are presently pending in this application.

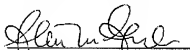
The preceding specification and claim amendments merely correct obvious typographical errors, and the amendment to claim 4 eliminates the multiple dependency so as to avoid the concomitant surcharge therefor.

New claim 9 is identical to claim 4, except that it depends from claim 3.

Entry and consideration of this Preliminary Amendment are respectfully requested, and an examination in due course is earnestly solicited.

Please charge any additional fees due to our Deposit Account No. 19-4880.

Respectfully submitted,

  
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Registration No. 36,818

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 5, 2006

# Assignment

Whereas, I/We, Daisuke NAKAJIMA of BRIDGESTONE CORPORATION

(hereinafter called Assignor(s)), have invented certain improvements in PNEUMATIC RADIAL TIRE

and executed an application for Letters Patent of the United States of America therefor on March 8, 2006; and

Whereas,

BRIDGESTONE CORPORATION

of Kyobashi 1-chome,

Chuo-ku, Tokyo 1048340,

Japan

(hereinafter called Assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now, therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above-named Assignor(s), hereby sell, assign and transfer to the above-named Assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America, including the right to claim priority under 35 U.S.C. §119, and I/we request the Director of the U.S. in the application to the Assignee, its successors and assigns; and I/we will execute without further consideration all papers deemed necessary by the Assignee in connection with the United States application when called upon to do so by the Assignee.

I/We hereby authorize and request our attorneys SUGHRUE MION, PLLC of 2100 Pennsylvania Avenue, NW, Washington, DC 20037-3213 to insert here in parentheses (Application number PCT/JP2004/014484 and Confirmation number \_\_\_\_\_, filed October 1, 2004) the application number, confirmation number and filing date of said application when known.

Date: March 8, 2006

Daisuke Nakajima  
s/ Daisuke NAKAJIMA

Date: \_\_\_\_\_

s/

Date: \_\_\_\_\_

s/

Date: \_\_\_\_\_

s/

Date: \_\_\_\_\_

s/

Date: \_\_\_\_\_

s/

(Legalization not required for recording, but is *prima facie* evidence of execution under 35 U.S.C. §261.)